(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number : **0 472 487 A3**

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number : **91480112.1**

(51) Int. Cl.^{5} : **G06F 9/46**

(22) Date of filing : **17.07.91**

(30) Priority : **21.08.90 US 570477**

(43) Date of publication of application :
26.02.92 Bulletin 92/09

(84) Designated Contracting States :
DE ES FR GB IT

(88) Date of deferred publication of search report :
11.08.93 Bulletin 93/32

(71) Applicant : **International Business Machines Corporation**
Old Orchard Road
Armonk, N.Y. 10504 (US)

(72) Inventor : **Munroe, Steven Jay**
1320 33rd.Street N.W.
Rochester, Minnesota 55901 (US)
Inventor : **Ranweiler, James Gregory**
5720 Glencroft Lane S.W.
Rochester, Minnesota 55902 (US)
Inventor : **Timms, George David, Jr.**
1129 Knoll Court N.W.
Rochester, Minnesota 55901 (US)

(74) Representative : **Vekemans, André**
Compagnie IBM France Département de Propriété Intellectuelle
F-06610 La Gaude (FR)

(54) Apparatus and method for controlling access to data using domains.

(57) In an object-based computer system, each object is contained in, and each task executes in, a protection domain. Domains exist at several hierarchical domain levels, (301-305) some levels having multiple discrete domains (320-322 ; 340-342), while others have one common domain. A task may access an object if the domain in which the task is executing is the same as the domain containing the object, or if the domain in which it is executing occupies a higher hierarchical domain level than the domain containing the object. Each object includes a domain attribute, which is a numerical value defining the domain in which it is contained. The domain attribute of the currently executing task is stored in a domain register. When an attempt is made to access data within an object, the domain attribute of the object is compared with the domain attribute stored in the domain register. If the access conditions are met, access is permitted.

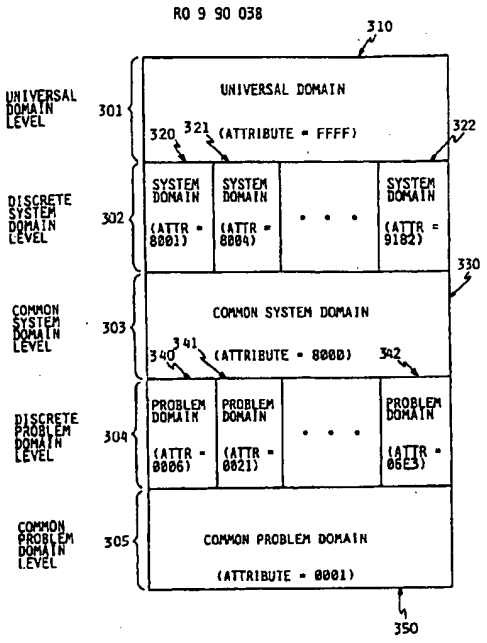

FIG. 3

EP 0 472 487 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 91 48 0112

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	ELEKTRONIK vol. 37, no. 3, 5 February 1988, MUNCHEN DE pages 49 - 53 P.SIWON 'Adressverwaltung und Speicherschutz' * page 51, left column, line 47 - page 52, left column, line 32; figures 2-3,5,7 *	1-4,7-12	G06F9/46 G06F12/14
A	EP-A-0 300 516 (DATA GENERAL CORPORATION) * figures 14,412,416 * * page 21, line 49 - page 22, line 27 * * page 175, line 28 - line 56 *	1-4, 10-11	
A	8TH INTERNATIONAL CONFERENCE ON DISTRIBUTED COMPUTING SYSTEMS 13 June 1988, SAN JOSE, CA pages 18 - 24 , XP92920 K.SHIMIZU ET AL. 'Hierarchical Object Groups in Distributed Operating Systems' * page 18, left column, line 1 - page 19, left column, line 55 *	1,6,10	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

G06F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	17 JUNE 1993	SCHARFENBERGER B.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P0401)